



H o m e T h e a t e r
P r o c e s s o r / P r e a m p l i f i e r



SP 1.7

Introducing the SP 1.7

OUR GOAL

With the SP 1.7, we have sought to design an uncluttered, easy-to-use processor/preamplifier, incorporating stereo and a full range of surround sound capability, which delivers state-of-the-art performance in both analog and digital formats.

PERFORMANCE WITHOUT COMPROMISE

With today's increased clarity and dynamic range in recordings and movie soundtracks you need equipment that not only equals but surpasses the parameters of the most demanding material available. The SP 1.7 preamplifier/processor is without peer in meeting this performance challenge.

EASY TO USE

The Bryston SP 1.7 is the first high-end processor designed to make home theater easy for the non-technical user. For example, most functions are automatic, controls are well-labeled, and there are clear unambiguous LCD and LED displays. Step-by-step set-up menus with error messages displayed on the LCD

window, and a user-friendly, yet comprehensive user manual, make the initial set-up simple and straightforward.

HOME THEATRE PROCESSING

In the digital mode, the SP 1.7 automatically detects the digital input signal, routes the signal through the DSP module, and adjusts to the appropriate mode. The digital circuit provides decoding for Dolby Digital, Dolby Prologic, DTS and THX formats, in 5.1, 6.1 and 7.1 channels.

There's also Mono and Stereo Down-mixing for all modes, Bass Management modes for all speaker setups.

ANALOG AND DIGITAL CONTROL

The SP 1.7 puts you in control of a full range of input/output options, allowing a choice of 13 sources, with 6 digital inputs (4 - coaxial & 2 - TOSLINK; pro model, AES/EBU - 12 sources), 6 stereo analog inputs, and a set of 6 inputs for a 5.1 analog output DVD-AUDIO player. A Digital toggle button lets you switch easily between digital and analog input signals, and there is a built-in 24/96 D/A processor. The SP 1.7 provides both



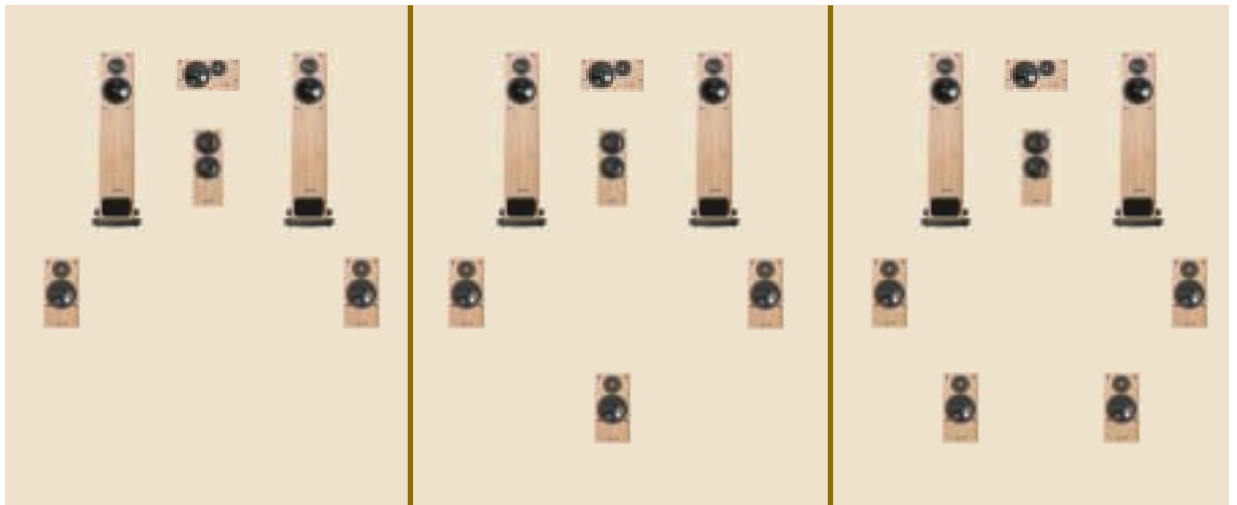
5.1

6.1

7.1

In addition to standard 5.1 surround, the SP 1.7 allows for 6.1 and 7.1 in EX and ES modes.

Illustration PMC model TLE Active Subwoofer with models FB1, TB2, and TB2C loudspeakers.



Sonic Superiority

unbalanced outputs (RCA) and a set of 6 true balanced outputs (XLR) for 5.1 and stereo, each with its own discrete output amplifier. Balanced signal transmission uses common-mode rejection to prevent induced hum and interference even with long cable runs.

STEREO PREAMPLIFICATION

While the SP 1.7 is a great multi-channel controller, there are those who still like their stereo in the analog realm; so, at the touch of a button, the digital circuitry can be bypassed and SP 1.7 operated as a Bryston audiophile-quality analog pre-amp. The bypass mode provides a totally discrete analog signal path — including an analog volume control. The signal does not go through any IC's or digital circuitry from input to output.

DIGITAL SIGNAL PROCESSING FOR MUSIC

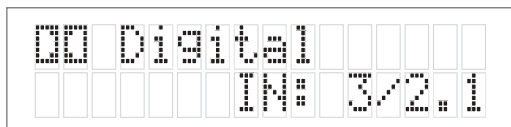
The SP 1.7's DSP music modes allow you a range of options to enhance the acoustic ambience of your listening room: Stereo5, Natural, Club, Stadium, Hall, Theatre, Church, and Party.

SONIC SUPERIORITY BY DESIGN

The Bryston Design philosophy ensures sonic superiority. All analog signal circuitry is fully discrete to avoid the phase shift and nonlinearity inherent in ICs. We exclusively use only the finest components, such as 1% metal-film resistors, polystyrene capacitors, hand-matched transistors, and gold-plated RCA and XLR connectors to reduce noise and distortion to the absolute minimum. Two completely separate and independent power supplies are employed to prevent any possibility of digital to analog crosstalk or interference.

THE RESULT

Of course, the purpose of all this technology is to place you within the scene of the movie, or to transport you to the actual musical event. Whether you can experience all the drama, movement, and emotions intended is the one truly meaningful measure of any audio/video system. Take the time to visit your Bryston dealer and audition the Bryston SP 1.7 preamplifier/processor. We think that you'll rediscover how exciting audio can be.



The SP 1.7 analyzes the digital bitstream, determines format, automatically adjusts mode, and provides a readout on the LCD screen.



Balanced outputs are ideal for long cable runs to active loudspeakers, reducing induced hum and noise.

Right PMC model AML-1 Powered Loudspeaker offers a balanced input



Reliability & Support

BUILT TO LAST

Bryston applies techniques and employs custom materials in our everyday construction of electronic equipment that are more typically utilized in military and aerospace industries. Our traditional adherence to proprietary parts and sophisticated construction and testing techniques prevents the unit-to-unit variability typical of mass produced product and assures that your amplifier will perform for many years without concern.

HAND ASSEMBLED WITH CARE:

All audio products we make are hand assembled and individually tested by a dedicated team of Bryston employees in our own North American manufacturing facility.

UNIQUE BURN-IN PROCEDURE

Each and every Bryston audio product undergoes an extensive quality control "burn-in" procedure. Following a complete operational checkout, every unit is placed on a test-bench and run for 100 hours. This extremely rigorous burn-in quickly "matures" components and weeds out any potential premature failures. The result is reliable trouble-free performance for many years.

EASY FUTURE UPGRADES

We've designed the SP 1.7 with a plug-in ROM chip; this allows for convenient upgrades so future software changes are quick and easy to implement. On the hardware side, our pin-to-pin compatible digital board topology facilitates upgrades to future formats or digital processing technologies. The SP 1.7's existing DAC chips can run at sample rates up to 192kHz facilitating upgrades to accommodate future formats. It is worth noting that many manufacturers promise that their units will be upgradable for future technology. Bryston actually does it (and is doing so today, at moderate cost, for the SP 1.7's predecessor).

ON-LINE CUSTOMER SUPPORT

The Bryston website allows for downloading of technical bulletins, product addendums, and complete user manuals.

OUR 20-YEAR WARRANTY

Our commitment to build-quality and to quality control is why every product we manufacture features an unlimited, transferrable 20-Year Warranty, a warranty that remains unequaled by any other audio manufacturer in the world.



This SP 1.7's RS 232 port allows for the integration of external control systems (AMX, Crestron, etc.), and manages external video switchers.



Two 12 volt trigger outputs allow for remote triggering of your amplifier(s) or other home theater accessories such as motorized drapes and screens.

Above Bryston 9B THX amplifier featuring trigger on/off and 5 modular channels, each delivering 120 watts into 8 Ohms.



SP 1.7 Key Features

- **Surround Processor**
5.1, 6.1, 7.1
Processes Dolby, DTS, THX, and PCM formats: Dolby Digital, Dolby Pro Logic and Pro Logic II, DTS-ES Discrete 6.1, DTS-ES Matrix 6.1, DTS Neo:6, THX Surround EX™, THX Ultra certified, PCM 32kHz, 44kHz, 48kHz, 96kHz sample rates.
- **Digital/Analog Multichannel Preamplifier**
Home Theatre Control Center
5.1 analog direct pass-through for DVD-Audio Players
- **DSP Processor**
Ambient Surround for music
- **Audiophile Stereo Preamplifier**
Digital-bypass pure analog circuit path
- **Stereo 24/96 D/A Converter**
For high-bit PCM audio

- Audiophile sound quality and construction: all analog gain blocks are fully discrete; premium components and hand-matched transistors used throughout; two separate independent linear power supplies with toroidal transformers isolate analog and digital circuitry preventing crosstalk or interference.
- Easy to use — automatically detects input signal bit-stream type and adjusts mode. LCD window shows decoding and signal information and error messages; LED indicators show button selections. Clean uncluttered control layout.
- Flexible input management: select from 11 sources, including 6 digital and 1 with discrete analog 5.1 input. Toggle button switches easily between digital and analog inputs.
- 6 Balanced (XLR) outputs.
- 6.1 and 7.1 channel RCA outputs for Surround EX™ and DTS - ES modes.
- Stereo and Mono down-mixing options for all surround modes.
- Digital bass-management modes for all speaker setups.
- Bass redirection modes for any speaker set-up.
- Dynamic-limiting for late-night enjoyment of Dolby Digital, DTS.
- Music DSP modes: Natural, Club, Stadium, Hall, Theatre, Church.
- Party mode (5-channel summed mono distribution for even room-coverage) and 5-channel Stereo option (stereo fed to front & rear).
- Easy set-up — LCD window provides built-in menus for speaker setup, and trim and delay adjustments, and displays error messages. Built-in test-signal generator and test sequencer makes calibration simple.
- Individually adjustable trims and delays for each channel. Level trims may also be fine tuned using the remote.
- Each input can have preferred mode saved.
- Integrates with external control systems (AMX, Crestron, and others).
- Control port for external video switchers including the Bryston SPV-1.
- Two 12-volt trigger outputs.
- Standby Power Mode allows remote power up.
- Designed for easy upgrading to future formats.
- Hand assembly.
- Tight quality control: 100-hour test and "burn-in"
- Rugged reliable construction.
- 20-year unlimited transferrable warranty.



Hand-held, 30-button, infrared remote control contains a tilt switch and photosensor that automatically backlights the keys when it is picked up in a darkened room.

BRYSTON

20-YEAR WARRANTY
Unlimited, unprecedented, unequaled



SP 1.7 Technical Specifications

Source Selection: Accommodates 11 sources, up to 4 of which may be digital inputs

Digital Inputs: 4 coaxial S/PDIF (RCA), 2 of which may be assigned to optical S/PDIF (TOSLINK)

Digital Inputs (Pro model): 1 AES/EBU, 4 coaxial S/PDIF (RCA)

Stereo Analog Inputs: 6 stereo pairs (RCA)

Discrete 5.1 Analog Inputs: 6 unbalanced (RCA) for Left, Centre, Right, Right Surround, Left Surround, and Subwoofer

Main Audio Outputs: 6 unbalanced (RCA) and 6 balanced (XLR) for Left, Right, Centre, Right Surround, Left Surround, and Subwoofer

Additional Outputs for ES/EX 6.1/7.1: Left Rear, Right Rear (RCA)

Audio Record Outputs: 2 stereo (RCA) pairs from any analog input

Frequency Response: 20Hz to 20kHz +/- 0.25 dB

THD & Noise (20Hz to 20kHz at 3V output level): Less than 0.006% in all modes; below 0.0025% in Bypass mode.

Signal-to-Noise Ratio: Not less than 100dB in all modes; 110dB in Analogue Bypass Mode (Ref. 1V input, maximum gain, 22kHz bandwidth).

Input Level: maximum 2 Vrms in DSP modes, 4Vrms in Bypass Mode

Output Level: 8 Vrms (16 Vrms Balanced) in DSP Modes; 10 Vrms (20 Vrms Balanced) in Bypass Mode

Output Impedance: 110 Ohms

D/A, A/D Conversion: Crystal Semiconductor 24-Bit Delta-Sigma

DSP Engine: Motorola

Bass Management: 2nd Order high-pass filter (x5), 4th Order low-pass filter; Crossover Frequencies 60, 70, 80, 90, 100, 110, or 120 Hz

Display: Two-line, 16-alphanumeric characters per line, black-on-green

Trigger Outputs: One 12V on/off trigger; one 12V programmable

Power Requirements: 100VAC, 115VAC, and 230VAC models

Remote Functions: Power, master volume, source switching, mode switching, mute, and trims (in test mode)

Control Port: RS-232 (bidirectional, D9 connector) port for integration of external control systems (AMX, Crestron, and others using character-based protocols), and for control of external video switchers

Aux. Infrared Receiver Input: Mini-phone jack

XLR Configuration: Pin 1 ground, pin 2 positive, pin 3 negative

Front Panel: Silver or Black; 17"-wide for shelf mounting or 19" rack panel (2 RU, 3.5"/8.9cm. high)

Weight: Approx. 22 lbs (10 kg)

Dimensions (including rubber feet):

Shelfmount 17" x 13.5" x 3.8", 43.2cm. x 34.3cm. x 9.7cm.

Rackmount 19" x 13.5" x 3.8", 48.3cm. x 34.3cm. x 9.7cm.

*Canada's largest independent manufacturer of high-end audio electronics
for consumers and professionals. Founded 1962. Visit our website:*

www.bryston.ca

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